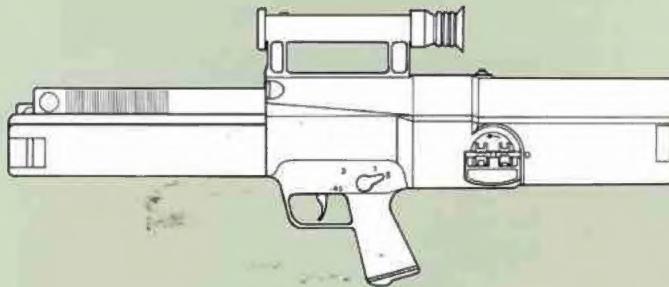




with caseless ammunition

Technical Data



Calibre	4.73 mm × 33 (0.185 in)	Modes of fire:
Type of ammunition	caseless	<ul style="list-style-type: none">• Single fire• 3-round burst• Sustained fire
Length of weapon	750 mm	Theoretical rates of fire:
Width of weapon	74 mm	<ul style="list-style-type: none">• 3-round burst• Sustained fire
Height of weapon	295 mm	> 2000 rounds/min approx. 450 rounds/min
Weight of weapon with 2 magazines loaded with 90 rounds	3.8 kg (8.38 lb) 4.3 kg (9.48 lb)	Max. shoulder pressure: <ul style="list-style-type: none">• 3-round burst• Single and sustained fire
Weight of reloading unit including 15 rounds	0.11 kg (3.89 oz)	Magazine capacity
Barrel length, less chamber Rifling twist length (Right hand twist)	540 mm (21.26 in) 155 mm (6.10 in)	Combat range Steel helmet penetration
		Operating principle
		Breech principle



Caseless ammunition	Length	33 mm (1.29 in)	Ignition	mechanical
	Cross-section	8 × 8 mm (0.32 in)	Mean gas pressure	3850 bar
	Total weight	5.20 g (0.18 oz)	Muzzle velocity V ₀	approx. 930 m/s (3051 ft/s)
	Projectile weight	3.25 g (0.12 oz)		



Magnification	1:1
Entry pupil	10.0 mm (0.43 in)
Exit pupil	9.5 mm (0.37 in)
Pupil clearance	46.0 mm (1.81 in)
Field of view	200 mil
Eyepiece adjustment	-6 dpt
Light transmission	> 85 %

GHGS

GESELLSCHAFT FÜR
HÜLSENLOSE GEWEHRSYSTEME MBH

HK HECKLER & KOCH
Dynamit Nobel

GHGS
D-4300 BOHM 1
BLUNDESKAUZPLATZ
TELEFON 0228/213225-24
TELEX 868254 HS 16 6
TELEFAX 0228/211024

Subject to technical modifications

The G11 Rifle with caseless ammunition sets new standards

- High hit probability even under combat conditions
- Quick readiness to fire
- Maximum reliability under all environmental conditions
- No impeding recoil effect on the shooter
- Low system weight
- Compact form
- No ejected cases
 - Simple care and maintenance
 - Short training times for users
 - Small cartridge dimensions
 - Low cartridge weight
 - Large number of rounds can be carried

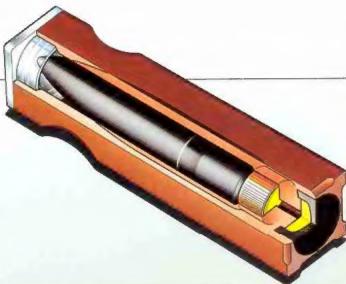
G 11 – the new weapon-ammunition-system with caseless ammunition for high hit probability.

This new technology has, for the first time, provided a solution meeting the tough demands of a modern battlefield.





The caseless ammunition
The propellant body of the caseless round has a quadratic cross-section, thus avoiding unnecessary weight in the barrel and magazines. In order to achieve optimum exterior and terminal ballistic performances, the projectile combines an extremely stiff, light shape and a high sectional density. The effect on soft targets is in accordance with international conventions. Even at short ranges the round does not penetrate in soft targets medium. Penetration capability through steel and concrete is comparable with conventional ammunition of larger calibre. The penetration performance against hard targets is so high that a G 11 bullet (at 100 m test standard) is penetrated with a soft core bullet at ranges up to 600 m.



Ammunition packaging

The water-light ammunition pack doubles as the reloading unit. These reloading units are so small that they can be stowed almost anywhere. The caseless ammunition is absolutely safe. In the absence of a case no overpressure can be generated by exposure to fire or bullet impact.

The risk of cook-off is largely eliminated by the extremely high self-ignition temperature of the propellant.



Ballistic table

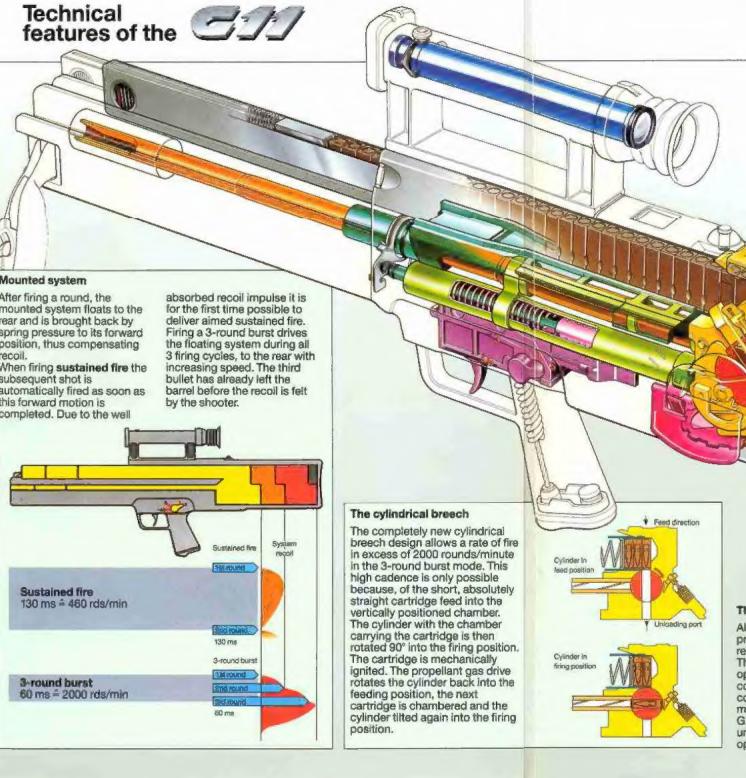
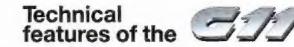
	0	100	200	300	400
Velopos. (m/s)	832	640	660	450	
Time of flight (s)	0	0.11	0.28	0.54	
Kinetic energy @ approx. 1400 m/s	1120	1120	715	390	
Velocity deviation (m)	0	0.02	0.17	1.07	
Crosswind drift (m) wind velocity = 10 m/s	0	0.08	0.5	2.8	

Types of ammunition

In addition to the combat cartridge with jacketed softcore bullet, the following types of ammunition are available:



Technical features of the G 11

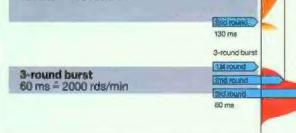


Mounted system

After firing a round, the mounted system floats to the rear and is brought back by spring pressure to its forward position, thus compensating recoil. When firing **sustained fire** the subsequent shot is automatically fired as soon as this forward motion is completed. Due to the well absorbed recoil impulse it is for the first time possible to deliver aimed sustained fire. Firing a 3-round burst drives the floating system during all 3 firing cycles, to the rear with increasing recoil forces. The third bullet has already left the barrel before the recoil is felt by the shooter.

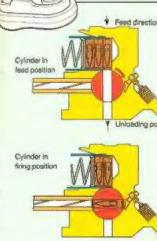


Sustained fire



The cylindrical breech

The completely new cylindrical breech design allows a rate of fire in excess of 2000 rounds/minute in the 3-round burst mode. This high rate of fire is possible because of the short, absolutely straight cartridge feed into the vertically positioned chamber. The cylinder with the chamber carrying the cartridge is then rotated into the firing position. The cartridge is mechanically ignited. The propellant gas drive rotates the cylinder back into the feeding position, the next cartridge is chambered and the cylinder tilted again into the firing position.



The receiver

All moving parts of the G 11 are protected in a completely sealed receiver. This not only guarantees operation under adverse conditions, but also considerably simplifies care, maintenance and logistics. The G 11 remains fully functional under all climatic and operational conditions.

All materials are chosen to resist corrosion, wear, NBC war influences as well as all kinds of chemical substances. Visible light and IR light reflection is reduced to a minimum. The smooth surface facilitates easy decontamination.



The sight

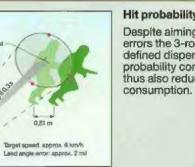
The well protected optical sighting system and sight adjustment elements are

integrated into the rifle's removable carrying handle. The optical sight with its 1:1 magnification allows rapid target acquisition. At the same time it allows full observation of the battlefield with binocular vision without tiring the eyes.



System comparison

G 11	M 16 A2	G 3 A3
Caliber 4.73 mm	Caliber 5.56 mm	Caliber 7.62 mm
90 cartridges carried in magazine + 20 in reloadng units	30 cartridges carried in magazine + 7 in magazines	20 cartridges carried in magazine + 4 in magazines
ammunition total of 510 cartridges available to the soldier	ammunition total of 240 cartridges available to the soldier	ammunition total of 100 cartridges available to the soldier
7.35 kg	7.35 kg	7.35 kg



Combat analyses show that conventional rifles achieve only low hit rates. Physical fatigue, target motion, battle noises, enemy fire, etc. handicaps the gunner when he tries to aim and fire his rifle. The G 11 achieves its high hit probability by firing automatically limited three-round bursts with defined dispersion! This weapon dispersion does not depend upon the shooter or his training level.